The ABEL Model is also designed to assess a firm's ability to pay for a Superfund (i.e., CERCLA) cleanup.[1] Based on the strength of a firm's expected future cash flows, ABEL is designed to answer the questions:

- How much can a Potentially Responsible Party (PRP) afford to contribute to Superfund cleanup costs?

- What is the likelihood that the PRP will be able to afford a specific cleanup cost?[2]

The difference between traditional ABEL and Superfund ABEL involves the tax treatment of the firm's historic cash flows. ABEL, as traditionally applied, analyzes the impact of environmental penalties and pollution control expenditures. Thus, traditional ABEL calculates *after-tax* cash flows and calculates a firm's ability to pay penalties or finance non tax-deductible pollution control expenditures from the estimated cash flows after all corporate income taxes are paid. In Superfund cases, ABEL evaluates a firm's ability to pay based on *before-tax* cash flows, assuming that Superfund contributions are fully tax-deductible in the year the contributions are made. Under certain situations Superfund contributions may not be fully tax-deductible, hence, Superfund ABEL may not be the appropriate tool. These situations are discussed in Section E of this chapter.

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[1] For a detailed discussion on Superfund ability to pay policy, consult *General Policy on Superfund Ability to Pay Determinations*, released by EPA's Office of Site Remediation Enforcement, September 30, 1997. Superfund ABEL is designed to be consistent with this guidance.

[2] ABEL will calculate a company's total capability based on recent historical financial information. It does not automatically account for a firm's total Superfund liabilities (existing or contingent) which may exist beyond the site under consideration. If you are involved with a firm that may have additional Superfund liabilities, you should investigate whether these potential obligations might affect the financial resources available to the firm.

The results generated for a Superfund ABEL analysis should be interpreted in the same manner as a traditional ABEL analysis. The results still present a conservative measure of a firm's ability to pay.

A. ABEL ANALYSIS FOR SUPERFUND VIOLATIONS

If you wish to assess a firm's ability to pay for a Superfund cleanup and it is a new case, click "New" on the "Main" Screen (See Exhibit 3-2). This selection will trigger the "Case Description Details" screen, in which you should record the basic case information. In the lower portion of the screen, ABEL requires you to enter the statute. You should click the downward-pointing arrow and select "Superfund," as shown in Exhibit 5-1. When you have entered all the information on the "Case Description Details" screen, click the continue button. This will bring you back to the "Main" screen, where you may then begin entering data by selecting "Input." After selecting "Input," the "Data Input Screen Selection" screen will appear (See Exhibit 3-5). Enter the firm's tax return information in exactly the same manner as for a traditional ability to pay analysis. For a review of how to enter tax form information, consult Chapter 3.

B. CHANGING THE MODEL'S STANDARD VALUES

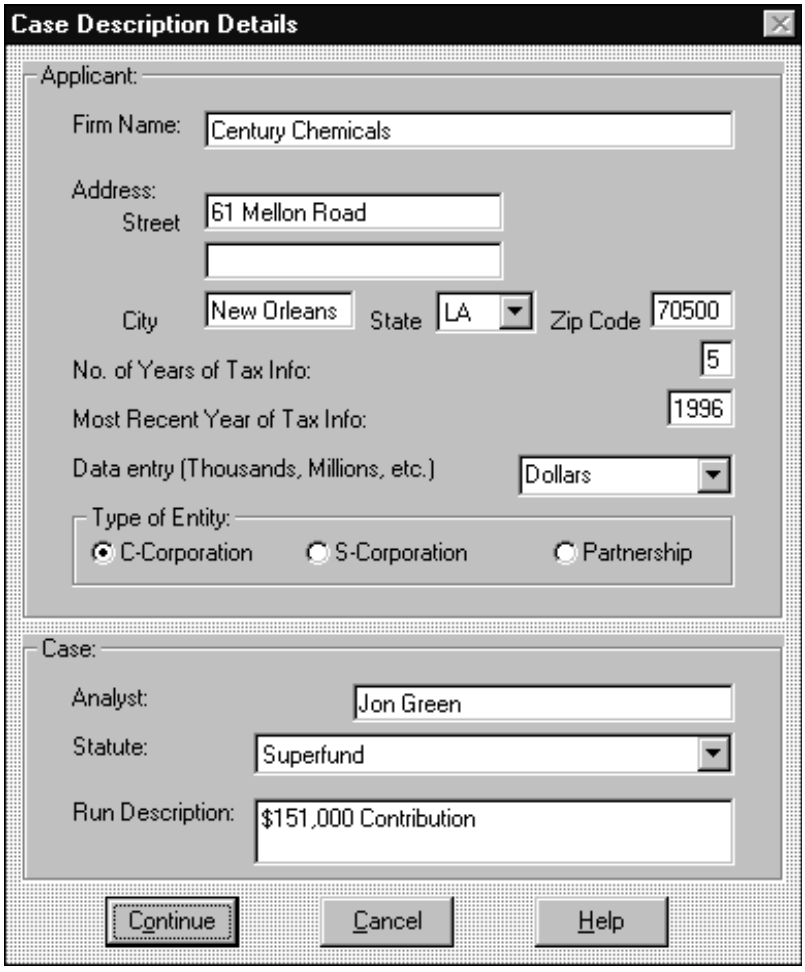
Continue through the "Tax Form" screens until you reach the "Model Default Values" screen, as shown in Exhibit 5-2. The following standard values are used in Superfund ABEL analyses, and can be accessed by the user in the "Default Parameters" screen:

1. Reinvestment Rate;
2. Annual Inflation Rate;
3. Discount Rate;
4. Weighted Average Smoothing Constant;
5. Number of Years of Cash Flow Considered Available; and
6. Penalty Payment Schedule.

Note the absence of a default value for the marginal income tax rate for corporations. Because Superfund ABEL calculates a firm's ability to pay on a pre-tax basis, the marginal income tax rate is generally not necessary for Superfund ABEL analyses. The reinvestment rate, inflation rate, weighted average smoothing constant, number of years of future cash flow considered available, and penalty payment schedule are described in detail in Chapter 4. The same default values for these five standard values for traditional ABEL are also used for Superfund ABEL analyses. The standard value for the discount rate, however, is different for Superfund ABEL. It is calculated on a pre-tax basis for Superfund analyses, as opposed to an after-tax basis for traditional ABEL cases.

Exhibit 5-1

"CASE DESCRIPTION DETAILS - SUPERFUND" SCREEN



1. Reinvestment Rate

The reinvestment rate provides a proxy for the portion of a firm's future cash flow that is allocated for reinvestment in depreciating assets. Typically, firms reinvest a portion of their earnings to replace machinery and equipment as it wears out. However, the more a firm reinvests, the less cash it will have available for Superfund cleanup costs. The reinvestment rate determines the fraction of the firm's depreciation expense that you assume the firm will reinvest.

For traditional ABEL analyses (i.e., cases involving a violation of any statute except Superfund), the standard reinvestment rate is zero, meaning that the model assumes that the firm must pay for its environmental obligations before making any new investment in depreciable capital items such as machinery and equipment. This standard value is based on the assumption that a firm

required to pay environmental penalties should not be constrained from paying the penalties by the need to recover non-cash depreciation expenses. In other words, a firm can reasonably reduce or slightly delay reinvestment in new plant and equipment to fund a penalty payment. Because ABEL forecasts only five years into the future, the analysis does not assume that the company ceases investment in new capital items forever.[3] In addition, a five-year period of reduced investment should not jeopardize the long-run financial health of most firms.

For ABEL cases that involve a Superfund violation, the standard reinvestment rate remains zero. However, under certain circumstances you may wish to adjust this figure. As discussed in Chapter 4, if you are examining the ability to pay of a manufacturer in an industry with rapidly changing technology, you may wish to assume that the manufacturer must reinvest in new plant and equipment to remain competitive. In this situation, you may wish to change the reinvestment rate to a figure greater than zero. In addition, if you specified on the "Model Default Values" screen that you wish to consider more than 5 years of future cash flow as available for contribution, you may wish to set the reinvestment rate to some figure greater than zero. (See related discussion in part 3 of this section). A value of 1.0 allows the firm to recapture 100 percent of its average deprecation expenses, providing greater cash flows to potentially reinvest in the business. A figure between zero and 1.0 allows the firm to recapture only a portion of its depreciation expenses.

2. Discount Rate

ABEL uses the discount rate to express the firm's expected future cash flows in present value terms. Because Superfund ABEL calculates a firm's ability to pay a contribution on a pre-tax basis, Superfund ABEL uses a standard *pre-tax* discount rate of 12.0 in 1997. This value represents an estimate of the weighted-average-cost-of-capital (WACC) over the past ten years ending in 1997, for an average firm. The formula used to calculate the WACC for each year is:

$$WACC = \left[CBA * W_D\right] + \left[\left[TB + R\right] * W_E\right]$$

where:

CBA	=	Ten-year average return on corporate bond
W_D	=	Fraction of total financing made up of debt
TB	=	Ten-year average return on Treasury bonds
R	=	Equity risk premia
W_E	=	Fraction of total financing made up of equity

[3] Note that even though the model assumes a zero reinvestment rate, EPA is not dictating an investment policy to the respondent. For purposes of predicting future cash flow, this assumption merely does not include the non-cash expense of depreciation associated with new capital investment as an expense the company has to meet in the future.

Exhibit 5-3 displays the key aspects of the WACC calculation. This standard value will be modified annually. You should not change this variable unless you consult with a financial analyst. ABEL uses the WACC because the model discounts the firm's overall cash flows, rather than those associated with a particular project. The WACC is appropriate since it is the standard discount rate used to evaluate a firm's overall cash flow.

3. Number of Years of Cash Flow Considered Available

As discussed in Chapter 4, the user may specify on the "Model Default Values" screen the number of years of future cash flow considered available for contribution. Like traditional ABEL runs, the default value for Superfund ABEL cases is 5 years. The September 30, 1997, Superfund ability-to-pay policy states that the Agency should normally require a violator to direct five years of future income toward payment of the proposed Superfund contribution amount. The model first calculates the firm's annual weighted average cash flow based on past financial information. It then projects this annual cash flow amount into the future for the number of years of cash flow considered available. The model then calculates the present value of this stream of future cash flow using the discount rate which is also specified on the "Model Default Values" screen. Please consult Appendix A for a detailed description of this calculation.

In some cases, you may wish to change the number of years of future cash flow considered available for contribution. You may choose to alter the default value if specific circumstances surrounding a case warrant a change to greater than or less than the default value of 5 years. The September 30, 1997, Superfund ATP policy allows the number of years of future income to be changed when circumstances warrant. For example, the policy states that increasing the number of years of future income may be considered in certain instances, including when revenue and expense projections are very erratic or when the firm is going through a major capital restructuring that will result in a temporary deferral of profits. Increasing the number of years of cash flow considered available increases the firm’s ability to pay a penalty or contribution because the model calculates the lump sum of more than 5 years of future cash flows. Alternatively, you may wish to decrease the number of years of future cash flow considered available. Decreasing the number of years of cash flow considered available decreases the firm’s ability to pay a penalty or contribution because the model calculates the lump sum of less than 5 years of future cash flows.

4. Penalty Payment Schedule

As discussed in Chapter 4, ABEL will calculate penalty payment schedules for circumstances in which you decide that the violator should pay the penalty or contribution in annual installments over several years. Like traditional ABEL analyses, the standard default value for Superfund cases

is that the firm will pay its allocated contribution in one lump-sum payment, or 1 year.[4] You may also choose a penalty payment schedule of 2 to 5 years. Note that allowing the firm to pay its penalty in 2 years (i.e., entering "2" as the penalty payment schedule) actually means that the firm makes one payment on the date the case settles and one payment one year from that date. Spreading the penalty over several years does not affect any of the ABEL Summary Analysis values. *The probability that a firm can afford to pay the environmental expenditures and/or civil penalty remains exactly the same*.[5]

If you choose to spread the penalty over more than one year, ABEL will provide a statement in the conclusion indicating how much the violator can afford to pay in annual payments over the specified number of years. It will also provide the lump sum penalty information. In traditional ABEL cases, ABEL computes a firm's annual payment amount using the after-tax discount rate entered on the "Model Default Values" screen (i.e., 10.6 percent). For cases that involve CERCLA violations, ABEL calculates a firm's annual payment using the Superfund interest rate rather than the pre-tax discount rate entered on the "Model Default Values" screen. The standard Superfund interest rate for 1998 is 5.61 percent.[6] This value is updated within the model annually. For more information on this calculation, please see Appendix A, Section D, Ability to Pay Calculations, Step 8.

For more information about changes to ABEL's standard default values, please consult Chapter 4, Section D.

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[4] The September 30, 1997 *General Policy on Superfund Ability to Pay Determinations* states that Superfund costs should generally be payable upon settlement. However, under appropriate circumstances, the settlement may provide for installment payments (but not generally for a period longer than five years).

[5] The stream of annual penalty payments is calculated so that its present value is the same as the lump-sum penalty payment that was specified in the input section.

[6] This discount rate is consistent with EPA policy outlined in *General Policy on Superfund Ability to Pay Determinations*, dated 30 September 1997. The 1998 rate was obtained from EPA's Financial Management Division.

Exhibit 5-2

"MODEL DEFAULT VALUES - SUPERFUND" SCREEN

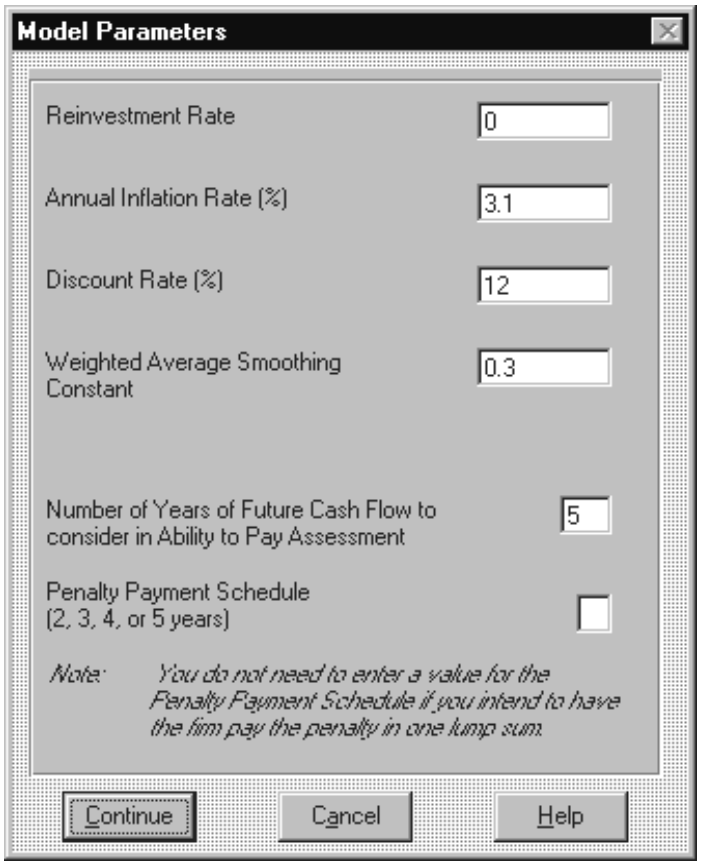


Exhibit 5-3

WEIGHTED AVERAGE COST OF CAPITAL CALCULATIONS

YEAR	COST OF DEBT[1]	TAX RATE[2] (%)	FRACTION OF DEBT [3]	TEN YEAR T BOND[4]	RISK PREMIUM[5]	EQUITY COST[6]	FRACTION OF EQUITY[3]	WACC
1988	10.18	38.4	0.52	8.85	7.5	16.35	0.48	13.17
1989	9.66	38.4	0.49	8.49	7.5	15.99	0.51	12.89
1990	9.77	38.5	0.50	8.55	7.5	16.05	0.50	12.91
1991	9.23	38.5	0.49	7.86	7.5	15.36	0.51	12.37
1992	8.55	38.6	0.47	7.01	7.5	14.51	0.53	11.71
1993	7.54	39.4	0.47	5.87	7.5	13.37	0.53	10.62
1994	8.26	39.4	0.44	7.09	7.5	14.59	0.56	11.77
1995	7.83	39.4	0.42	6.57	7.5	14.07	0.58	11.45
1996	7.66	39.4	0.37	6.44	7.5	13.94	0.63	11.62
1997	7.54	39.4	0.37	6.35	7.5	13.85	0.63	11.52
10 YEAR AVERAGE	8.62			7.31		14.81		12.0

Notes:

[1] This is the average interest rate paid on corporate bonds. Table 1.35, Federal Reserve Bulletin.

[2] For further explanation of how the average total corporate marginal tax rate is calculated, see the BEN User's Manual.

[3] These weights represent the fraction of financing that is made up of debt or equity. The weights are constructed using data from Standard and Poor's Stock Analyst's Handbook. The equity indexes are adjusted to reflect their market value.

[4] Treasury bond data from Table 1.35, Federal Reserve Bulletin.

[5] This is the arithmetic mean of the long-term equity risk premium for 1926 through the most recent year available calculated by Ibbotson Associates.

[6] For further explanation of the calculation of equity cost of capital, see the BEN User's Manual.

C. CONTRIBUTION AND COMPLIANCE EXPENDITURES

When you have finished entering information on the "Model Default Values" screen, press "Continue" to move ahead to the "Contribution and Compliance Expenditures" screen, as shown in Exhibit 5-4. This screen prompts the user to enter the proposed contribution and compliance expenditures for the firm.

1. Superfund Cleanup Cost Payment Date

ABEL prompts you to enter the year in which the firm will be responsible for the proposed Superfund cleanup cost payment. You must enter all four digits for the appropriate year (e.g., 1997 rather than '97). If you have a case in which the violator will pay the Superfund contribution in annual installments (i.e., penalty payment schedule is greater than 1 year), you should enter the year in which the firm will make its *first payment* as the cleanup cost payment date.

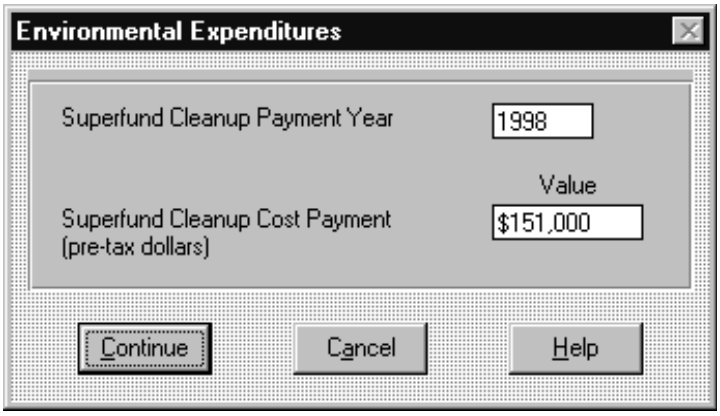
2. Superfund Cleanup Cost Payment

On the next line, ABEL prompts you to enter the Superfund cleanup cost payment. If you wish to assess the maximum contribution the firm can afford to pay, enter a zero and press "Continue." If you wish to evaluate the probability that a firm can pay a specific contribution, enter the amount on the line. This amount should include all Superfund site costs the firm will incur, or has incurred, after the end of the last year in which you have entered tax return data. Do not, for example, enter clean-up costs incurred in 1994 if you have entered tax data for 1994.[7] Also enter the year-dollars in which the cost payment is expressed. For example, in the Century Chemicals case, EPA seeks a $151,000 contribution from the firm, as shown in Exhibit 5-4. When you have finished entering all of the information on the "Penalty and Compliance Expenditures" screen, click continue and the model will automatically return you to the "Summary Screen Selection" screen. If you wish to double-check the data you have entered, select the appropriate screen and press "View/Edit." If you would like to conduct an ABEL analysis, click "Exit" and the model will return you to the "Main" screen.

[7] These cleanup costs will presumably be included and accounted for in the business expenses cited in that year's tax return.

Exhibit 5-4

"ENVIRONMENTAL EXPENDITURES - SUPERFUND" SCREEN



D. INTERPRETING SUPERFUND ABEL RESULTS

You may now run an ABEL analysis by selecting "Run" on the "Main" Screen. The output produced by ABEL for a Superfund case can be read and interpreted in the same manner as output for a traditional ABEL analysis. For detailed information on how to interpret ABEL results, please consult Chapter 4.

While the results are similar for a traditional ABEL run and a Superfund ABEL run, the presentation of Superfund ABEL results differs slightly. These results are presented in Exhibit 5-7. ABEL produces a table showing the projected pre-tax cash flow the firm will likely generate based on historical information and then subtracts the proposed contribution from this amount. The projection assumes that five years of future cash flow is available for contribution to EPA.

Like traditional ABEL, Superfund ABEL produces a probability distribution of likely future cash flows. These probabilities reflect the likelihood that the firm will equal or exceed the specified level of cash flow. In Column 2 of the table, the firm's projected pre-tax cash flows are listed. Column 3 shows the proposed Superfund contribution. (The column will show a series of "zeros" if the user did not specify a contribution amount.) Column 4 reflects the cash flows listed in Column 2 less the proposed Superfund cleanup costs for the firm in Column 3. This distribution is shown graphically in the related chart.

The ability to pay conclusion can be interpreted exactly as that for a traditional ABEL run. The model produces a conclusion estimating the probability that the firm's future cash flows will be sufficient to meet a particular contribution. If the user stipulated that the contribution be paid over a period of years in the input phase, the results will produce a related series of annual payments. Like traditional ABEL, Superfund ABEL will also conduct a historical comparison of cash flow to determine whether the user should change the smoothing constant employed in the analysis.

E. ALTERNATIVE TAX TREATMENT FOR SUPERFUND CONTRIBUTIONS

The tax treatment of Superfund contributions is complex and somewhat uncertain. We address the relevant issues below, first presenting background information on Internal Revenue Service treatment of this issue, then discussing ways the user can manipulate the ABEL model to consider alternative tax treatment.

1. Background on Tax Treatment of Superfund Contributions

Rulings by the Internal Revenue Service (IRS) to date have not fully addressed the federal income tax treatment of Superfund (and other environmental) cleanup costs. When this issue has been addressed by the IRS, parties have been allowed to deduct remediation expenditures as ordinary and necessary business expenses in some instances while they have been required to capitalize and depreciate them over time in other circumstances.

In its only revenue ruling directly dealing with this issue, the IRS addresses the situation of the owner of a manufacturing plant who bought the property in a clean condition, contaminated its soil and groundwater with hazardous waste, and then restored it to its original physical condition. The revenue ruling allows the property owner to deduct soil remediation costs and ongoing groundwater treatment expenditures, but requires him to capitalize and deduct over time the cost of constructing a groundwater treatment facility.[8] The revenue ruling assumes that the owner will either continue manufacturing operations at the site or will discontinue them and hold the land in an idle state.

In a private letter ruling to the owner of a Superfund site (which can not be used or cited as precedent by other parties), the IRS allowed legal and consulting fees related to issuance of a consent order, listing on the National Priority List (NPL) of a site contaminated by a predecessor company, and development of a remedial investigation/feasibility study (RI/FS) to be deducted as ordinary and necessary business expenses.[9] The IRS found that these costs did not create or enhance an asset and that they did not produce a long-term benefit for the property owner.

Users should note that these IRS rulings do not address all the possible scenarios for current owner/operators of Superfund sites, particularly the situation in which a site was contaminated by the activities of a previous owner. They also do not address the situation in which the remediation increases the value of the property or in which the property will be put to a new use. Furthermore, IRS rulings do not address at all the tax treatment of expenditures by other types of parties at Superfund sites (i.e., former owner/operators, generators and transporters). However, it is likely that in the case of parties who are not current owner/operators of Superfund sites, Superfund cleanup expenditures will be deductible in the year expended or incurred if the expenditures are related to carrying on a trade or business or can be characterized as an investment expense. A deduction may

[8] Rev. Rul. 94-38, 1994-1 C.B. 35.

[9] Priv. Ltr. Rul. 96-27-002.

not be allowable, however, if the party is an individual who cannot make either type of demonstration.

Because this is an area of significant uncertainty and the facts of each case are important for the tax treatment of environmental cleanup expenditures, the IRS has issued Revenue Procedure 98-17, a revenue procedure that provides (for a two-year trial period) special procedures by which a party can obtain a letter ruling from the IRS on the federal income tax treatment of a particular environmental cleanup project.[10] The procedures apply to any costs associated with the assessment, mitigation or remediation of environmental hazards, whether such hazards are on the property of the party requesting the ruling or on the property of another party. Examples of environmental cleanup projects listed in the revenue procedure include the study, remediation, and monitoring of soil and groundwater at a former manufacturing site.

Because it is likely that most parties at Superfund sites are not current owner/operators and because the Superfund expenditures of most of these parties are expected to be deductible as ordinary and necessary business expenses for federal income tax purposes, the Superfund ABEL model assumes that Superfund expenditures are deductible in the year spent or incurred. However, users of the model should consider altering the parameters of the ABEL run if the factors of a particular case and/or the status of a party indicate that there is a good reason to believe that the expenditures will be treated otherwise (i.e., they will have to be capitalized and depreciated over time or they will not be deductible at all). For current owner/operators of Superfund sites, particular situations in which there may be a different tax treatment include: (1) The site was contaminated while owned by a previous owner; (2) The expenditure is for a facility that will have value over time, such as a groundwater treatment facility; (3) The site will be put to a new use after the cleanup; and/or (4) The value of the site will increase after the cleanup, compared to its value prior to contamination.

For other types of parties, deductibility may be a problem if the party is an individual who does not have a business or investment relationship to the expenditure. For example, suppose an individual who is a PRP at a Superfund site owned and operated a dry cleaning business for 30 years, but is currently retired after closing the business. This individual may not be able to deduct his or her Superfund contribution as an ordinary and necessary business expense since the business is no longer operating. Similarly, he or she may also have difficulty claiming this expense as investment-related. Instead, the individual may have to pay the contribution using his or her after-tax cash flow. In circumstances such as these, the Individual Ability to Pay (Indipay) model should be used since the entity under examination is an individual, not a corporation, and the individual's after tax cash flow should be examined.

In deciding whether the parameters of the ABEL run should be altered, it would be helpful for the user of the model to know whether a party has received a private letter ruling (or other communication) from the IRS concerning the tax treatment of its Superfund-related expenditures.

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[10] Rev. Proc. 98-17, 1998-5 I.R.B. 21.

If you need assistance in determining how a Superfund expenditure should be treated in the ABEL model, you may wish to consult a financial analyst in your region or office. You may also contact Bob Kenney of the EPA Office of Site Remediation Enforcement, Policy and Program Evaluation Division, at 202/564-5127. If you need assistance adjusting the model's assumption concerning tax deductibility or have other questions about the mechanics of the ABEL model, please contact EPA's Economic Support Helpline at 888/ECON-SPT.

2. Adjusting ABEL for Alternative Tax Treatment

Based on the discussion above, the tax treatment of a particular Superfund contribution will likely fall into one of three general categories: (1) the entire contribution is fully tax-deductible in the year in which the contribution is made; (2) the entire contribution is tax-deductible, but the tax deduction must be spread out over a period of years (i.e., the contribution must be capitalized and depreciated over the useful life of the asset purchased with the contribution); and (3) no portion of the contribution is tax-deductible. Superfund ABEL is designed to handle the first category of Superfund cases. ABEL is capable of estimating ability to pay for the other two categories, but some manipulation of the model inputs is required. The steps required to assess these alternative cases are described below.

Note that instances may arise where portions of a Superfund contribution fall under two or more of the three categories listed above. For example, one part of the contribution may be fully deductible while another may be partially deductible. If you are involved in a case with this level of complexity, you may wish to consult a financial analyst. In addition, the adjustments discussed below become more complicated if the contribution is going to be paid over time. In this instance, you may wish to consult a financial analyst to help you interpret the ABEL results.

Depreciable Superfund Contribution

Adjusting an ABEL run to consider a depreciable Superfund contribution is straightforward, but the results generated by the model are more difficult to interpret. The tax treatment of this scenario is similar to a traditional ABEL run that considers the impact of depreciable capital costs. In this instance, a sum of money is expended in one year to purchase a particular asset; however, the cost of this asset can only be deducted for tax purposes over a period of many years. To manipulate the ABEL model to consider depreciable Superfund expenditures, the user should conduct a traditional ABEL run (as described in Chapter 3 and 4) with the Superfund contribution entered as a "Depreciable Capital Cost." These steps are detailed in Exhibit 5-5 below.[11]

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[11] For depreciable capital costs, ABEL assumes a seven year depreciation schedule. If the depreciation schedule for the Superfund contribution you are assessing is significantly higher or lower than this figure, contact a financial analyst. You may still conduct an ABEL model run to generate a rough estimate of ability to pay, but the result will not be as accurate. A financial analyst would be able to assist you in interpreting these results. In addition, you should seek help from a financial analyst for cases in which a Superfund contribution is depreciable *and* you decide to

Exhibit 5-5

ASSESSING DEPRECIABLE SUPERFUND CONTRIBUTIONS

Step	Enter the following screen...	Make the following adjustment...
1	Case Description Details	Designate a statute other than "Superfund" (e.g., RCRA).
		Enter a run description that notes the Superfund adjustment.
		Enter all other information on this screen just as a regular ABEL run.
2	Environmental Expenditures	Enter Superfund contribution amount as "Depreciable Capital Cost."
3	Tax Data Input Screens	Enter all other tax return inputs just as a regular ABEL run.
4	Ability to Pay Conclusion	Interpretation of results more involved. Review the first ("Probability of Cash Flow") and second ("Total Cash Flow Generated by Firm") columns of the "Summary" table and consider the following: 1. The figure appearing in the third row of the second column represents the ***total*** Superfund contribution the firm can afford with 70 percent probability. 2. If the contribution you entered is less than this amount, conclude that the firm can afford the contribution with ***greater than*** 70 percent probability. 3. If the contribution you entered is greater than this amount, do not conclude that the firm cannot afford the contribution without first conducting additional analysis. Seek the assistance of a financial analyst, if necessary, or call the Economics Support Helpline at 888/ ECON-SPT for assistance.

Non-Tax-deductible Superfund Contribution

Adjusting an ABEL run to consider a non-tax-deductible Superfund contribution is straightforward, and the results are easy to interpret. The tax treatment of this scenario is identical to a traditional ABEL run — penalty payments resulting from noncompliance are generally not tax-deductible. Accordingly, this manipulation involves conducting a traditional ABEL run (as described in Chapter 3 and 4) with the Superfund contribution entered as the penalty amount. These steps are detailed in Exhibit 5-6 below.

consider more than five years of future cash flow as available for contribution to EPA.

Exhibit 5-6

ASSESSING NON-Tax-deductible SUPERFUND CONTRIBUTIONS

Step	Enter the following screen...	Make the following adjustment...
1	Case Description Details	Designate a statute other than "Superfund" (e.g., RCRA).
		Enter a run description that notes the Superfund adjustment.
		Enter all other information on this screen just as a regular ABEL run.
2	Environmental Expenditures	Enter Superfund contribution amount as "Lump-Sum Settlement Penalty."
3	Tax Data Input Screens	Enter all other tax return inputs just as a regular ABEL run.
4	Ability to Pay Conclusion	Interpret results just as the results of a regular ABEL run; the penalty amount cited in the model's conclusion is equivalent to the non-tax-deductible Superfund contribution the firm can afford to pay.

Financial Profile

Exhibit 5-7

In Dollars

Century Chemicals
C Corporation, Tax Form 1120
Run Description: $151,000 Contribution

	1996	1995	1994	1993	1992
Balance Sheet					
Assets					
Cash	$ 12,836	$ (97,343)	$ (162,432)	$ (106,071)	$ (36,345)
Accounts Receivable	$ 272,087	$ 337,715	$ 273,784	$ 343,527	$ 245,131
Inventories	$ 384,539	$ 397,486	$ 448,016	$ 476,346	$ 511,708
U.S. Government Obligations	$ 0	$ 0	$ 0	$ 0	$ 0
Tax-Exempt Securities	$ 0	$ 0	$ 0	$ 0	$ 0
Other Current Assets	$ 34,153	$ 22,743	$ 23,905	$ 66,065	$ 188,663
All Other Assets*	$ 527,701	$ 787,577	$ 827,297	$ 907,479	$ 872,527
Total Assets	$ 1,231,316	$ 1,448,178	$ 1,410,570	$ 1,687,346	$ 1,781,684
Liabilities					
Accounts Payable	$ 1,085,691	$ 1,165,439	$ 1,424,616	$ 1,421,732	$ 1,102,786
Mortgages, Bonds Payable in < 1 Year	$ 998,059	$ 979,477	$ 961,349	$ 983,270	$ 1,026,838
Other Current Liabilities	$ 801,898	$ 725,843	$ 676,015	$ 631,878	$ 553,278
Loans from Stockholders	$ 16,500	$ 16,500	$ 16,500	$ 16,500	$ 16,500
Mortgages, Bonds Payable in > 1 Year	$ 0	$ 0	$ 0	$ 0	$ 154,446
Other Liabilities	$ 0	$ 0	$ 0	$ 0	$ 0
Total Liabilities	$ 2,902,148	$ 2,887,259	$ 3,078,480	$ 3,053,380	$ 2,853,848
Stockholders' Equity	$ (1,670,832)	$ (1,439,081)	$ (1,667,910)	$ (1,366,034)	$ (1,072,164)
Total Liabilities and Stockholders' Equity	$ 1,231,316	$ 1,448,178	$ 1,410,570	$ 1,687,346	$ 1,781,684
Income Statement					
Gross Sales	$ 4,246,423	$ 4,329,631	$ 2,999,842	$ 3,037,992	$ 2,706,567
Cost of Goods Sold	$ 2,938,509	$ 3,318,139	$ 2,166,916	$ 2,243,600	$ 2,251,687
Operating Profit	$ 1,307,914	$ 1,011,492	$ 832,926	$ 794,392	$ 454,880
Other Expenses and Income					
Interest Expense	$ 237,658	$ 231,252	$ 166,642	$ 139,706	$ 183,730
Depreciation	$ 24,667	$ 27,410	$ 19,178	$ 21,848	$ 11,670
Depletion and Amortization	$ 5,964	$ 5,640	$ 6,039	$ 7,127	$ 5,871
Other Expenses (Income)**	$ 941,290	$ 677,612	$ 445,684	$ 438,551	$ 75,079
Total Expenses (Income)	$ 1,209,579	$ 941,914	$ 637,543	$ 607,232	$ 276,350
Taxable Income Before NOL	$ 98,335	$ 69,578	$ 195,383	$ 187,160	$ 178,530
Summary of Estimated Cash Flow					
Taxable Income Before NOL	$ 98,335	$ 69,578	$ 195,383	$ 187,160	$ 178,530
Tax	$ 0	$ 0	$ 0	$ 0	$ 0
Credit for Regulated Investment	$ 0	$ 0	$ 0	$ 0	$ 0
Credit for Federal Fuels	$ 0	$ 0	$ 0	$ 0	$ 0
Depreciation	$ 24,667	$ 27,410	$ 19,178	$ 21,848	$ 183,730
Depletion and Amortization	$ 5,964	$ 5,640	$ 6,039	$ 7,127	$ 5,871
Income Not Included on Return	$ 0	$ 0	$ 0	$ 0	$ 0
Available After-Tax Cash Flow	$ 128,966	$ 102,628	$ 220,600	$ 216,135	$ 196,071
Available Pre-Tax Cash Flow	$ 128,966	$ 102,628	$ 220,600	$ 216,135	$ 196,071
Adjusted for Inflation	$ 137,086	$ 112,471	$ 249,253	$ 251,778	$ 235,486

* May include loans to stockholders, mortgage and real estate loans, other investments, buildings and other depreciable assets, depletable assets, land, intangible assets, and other long-term assets; see Schedule L of firm's federal income tax return.

** Includes additional income categories listed on page 1, Income Section, of firms's federal income tax return and additional expense categories listed on page 1, Deductions Section, of firms's federal income tax return.

Financial Profile

In Dollars

Century Chemicals
C Corporation, Tax Form 1120
Run Description: $151,000 Contribution

	1996	1995	1994	1993	1992
Historical Financial Ratios					
Debt to Equity	-1.75	-2.02	-1.86	-2.25	-2.67
Current Ratio	0.24	0.23	0.19	0.26	0.34
Times Interest Earned	1.41	1.30	2.17	2.34	1.97
Beaver's Ratio	0.04	0.04	0.07	0.07	0.07
Altman Z'- Score	1.39	1.29	0.23	0.40	0.61

Debt to Equity **-1.75** **-2.02** **-1.86** **-2.25** **-2.67**

The debt to equity ratio (D/E) is defined as the firm's total liabilities divided by its stockholders' equity. This ratio measures the degree to which debt constitutes the company's financing.
A D/E less than zero indicates that a firm has negative stockholders' equity, an extremely poor financial situation. This firm's D/E fell into this category in 1996, 1995, 1994, 1993, 1992.

Current Ratio **0.24** **0.23** **0.19** **0.26** **0.34**

The current ratio (CR) is defined as the firm's current assets divided by its current liabilities. The ratio assesses whether the firm will be able to cover its short-term debts using cash and other current assets that can be easily liquidated.
A CR less than 1.0 indicates that the firm has serious liquidity problems. This firm's CR was poor in 1996, 1995, 1994, 1993, 1992.

Times Interest Earned **1.41** **1.30** **2.17** **2.34** **1.97**

The times interest earned ratio (TIE) is defined as the firm's earnings before interest and taxes divided by its interest expense payments. This ratio indicates how easily the firm can pay the interest expense on its debt.
A TIE less than 2.0 indicates that the firm may have trouble meeting future interest payments. As the TIE decreases, the likelihood of the firm experiencing problems in meeting those payments increases. This firm's TIE was unfavorable in 1996, 1995, 1992.
A TIE greater than 2.0 generally indicates that the firm is able to meet its interest payments. This firm fell into this category in 1994, 1993.

Beaver's Ratio **0.04** **0.04** **0.07** **0.07** **0.07**

Beaver's ratio (BR) is defined as the firm's after-tax cash flow divided by its total liabilities. The BR provides a useful measure for predicting a firm's long-term solvency and likelihood of staying in business. In particular, the BR indicates whether the firm's internally generated cash flow is sufficient to meet its current and long-term financial obligations.
A BR less than 0.1 generally indicates poor financial health. This firm fell into this category in 1996, 1995, 1994, 1993, 1992.

Altman's Z- Score **1.39** **1.29** **0.23** **0.40** **0.61**

Altman's Z-Score (AZS) is calculated as a weighted average of several financial ratios. AZS is a predictor of firm failure. It is most accurate within two years prior to bankruptcy.
An AZS less than 1.23 indicates that the firm could be bankrupt within the next two years if its financial situation does not dramatically improve. This firm's AZS fell into this category in 1994, 1993, 1992.
An AZS between 1.23 and 2.90 is inconclusive. This situation applied to this firm in 1996, 1995.

This firm's most recent year's financial ratios indicate that:

The firm's financial condition is poor with zero or negative stockholders' equity. The firm will likely have difficulty obtaining additional debt financing.
Note that although these ratios provide a rough indication of the firm's financial condition, they can easily be misinterpreted. See ABEL User's Manual for a more detailed discussion of these issues.

Ability to Pay Analysis

Century Chemicals
C Corporation, Tax Form 1120

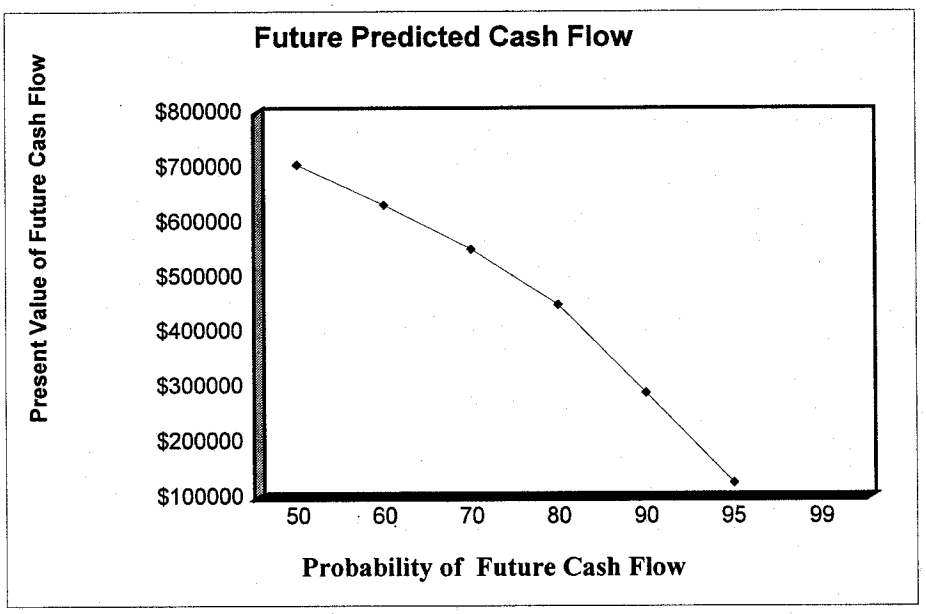
Run Description: $151,000 Contribution

Contribution Amount: $151,000 in 1998 dollars

Reinvestment Rate:	0.0
Annual Inflation Rate (%):	3.1
Discount Rate (%):	12.0
Weighted Average Smoothing Constant:	0.3
Number of Years of Future Cash Flow:	5
Contribution Payment Schedule:	1

Summary of Predicted Cash Flow

Probability of Adequate Cash Flow	Total Pre-Tax Cash Flow Generated by Firm	Superfund Cleanup Cost	Cash Flow Net of Superfund Cleanup Cost
50%	$ 709,723	$ 151,000	$ 558,723
60%	$ 636,116	$ 151,000	$ 485,116
70%	$ 555,176	$ 151,000	$ 404,176
80%	$ 454,137	$ 151,000	$ 303,137
90%	$ 293,343	$ 151,000	$ 142,343
95%	$ 130,648	$ 151,000	$ -20,352
99%	$ 0	$ 151,000	$ -151,000



Conclusions

ABEL estimates a 94.4 percent probability that Century Chemicals can generate $151,000 in pre-tax dollars to cover Superfund cleanup costs.
ABEL estimates a 70 percent probability that Century Chemicals could afford to pay $555,176 for Superfund cleanup costs.
This estimation of ability to pay is based on funds the firm is expected to generate during the next 5 years.

EPA employs the 70 percent probability level as a common cutoff for determining ability to pay. Note, however, that it is ultimately up to the litigation team to determine an appropriate cutoff.

All figures are expressed in Dollars and 1998 year-dollars.

ABEL generally provides a conservative estimate of ability to pay. Click 'Help' on the 'Reports Generation' screen or consult the ABEL User's Manual for a discussion of ABEL's results and related issues.